

ABSTRACT OF THE DISCLOSURE
PROCESSOR AND METHOD OF EXECUTING A LOAD INSTRUCTION THAT
BIFURCATE LOAD EXECUTION INTO TWO OPERATIONS

5 A processor implementing an improved method for
executing load instructions includes execution circuitry,
a plurality of registers, and instruction processing
circuitry. The instruction processing circuitry fetches
a load instruction and a preceding instruction that
10 precedes the load instruction in program order, and in
response to detecting the load instruction, translates
the load instruction into separately executable prefetch
and register operations. The execution circuitry
performs at least the prefetch operation out-of-order
with respect to the preceding instruction to prefetch
data into the processor and subsequently separately
executes the register operation to place the data into a
register specified by the load instruction. In an
embodiment in which the processor is an in-order machine,
20 the register operation is performed in-order with respect
to the preceding instruction.